

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Dr. Christoph Charton et al.

Group Art Unit: 1795

Appln. No. : 10/597,625  
(National Stage of PCT/EP2004/013258)

I.A. Filed : November 23, 2004

Examiner: McDonald

Confirmation No. 3976

For : METHOD FOR THE PRODUCTION OF AN ULTRA BARRIER LAYER  
SYSTEM

**APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. 41.41  
IN RESPONSE TO EXAMINER'S ANSWER**

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Service Window, Appeal Brief – Patent  
Randolph Building  
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Sir:

Further to the Examiner's Answer dated March 15, 2011, the following is Appellant's reply.

Appellant submits that the Examiner's Answer does not address the deficiencies of the rejections set forth in the Final Rejection, and does not fully respond to Appellant's arguments set forth in Appellant's Appeal Brief, filed December 22, 2010, so that the final rejections remain without sufficient basis.

Appellant's arguments for patentability are set forth in their Appeal Brief. Therefore, for the sake of brevity, this Reply Brief does not repeat each of the arguments set forth in the Appeal Brief, but incorporates these arguments by reference herein as if set forth in their entirety. Thus,

this Reply Brief addresses arguments set forth by the Examiner in the Examiner's Answer, and points out deficiencies in these arguments while emphasizing arguments set forth by Appellant.

The Examiner's Answer has not addressed Appellant's argument that for inherency to be present the result asserted in the rejection must be the necessary result and not merely a possible result. In particular, in order for inherency to be present, the Examiner has the burden of establishing that the result asserted in the rejection is the necessary result, and not merely a possible result. In other words, as previously argued by Appellant, the rejection must establish that Appellant's method of producing an ultrabARRIER layer system is either explicitly or inherently disclosed in either of Rauschnabel-US or Rauschnabel-WO (hereinafter collectively referred to as "Rauschnabel" - as Rauschnabel-US is the national stage of Rauschnabel-WO).

As previously noted by Appellant, the initial burden in establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner. Moreover, in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Accordingly, the rejections must establish that the method for applying a wear protective layer system of Rauschnabel would either explicitly or inherently produce an ultrabARRIER layer system as recited in Appellant's independent claim 1.

**However, the rejections do not point to any disclosed embodiment of either of Rauschnabel that anticipates Appellant's recited method for producing an ultrabARRIER layer system.**

The Examiner's answer has not argued against Appellant's statement that if the rejection is relying upon the embodiment of Fig. 2 of Rauschnabel, this embodiment only discloses layers 22 made of sputtered metal compound and polysiloxane layers 21 with a substrate 20. The rejections do not address that there is no teaching or suggestion in Rauschnabel that any of these

layers be applied in any manner to produce an ultrabARRIER layer system let alone to arrive at Appellant's recited method of producing an ultrabARRIER layer system. Rauschnabel is directed to methods for producing a **wear protection** layer system and the resulting layer systems. Differences of wear protection layers as compared to an ultrabARRIER layer system are readily apparent to one having ordinary skill in the art for the reasons fully set forth in Appellant's Appeal Brief.

The Examiner's Answer contends in multiple locations that, "Rauschnabel-US's [Rauschnabel-WO's] layer system can be considered to be an ultrabARRIER layer system since the materials in Rauschnabel-US [Rauschnabel-WO] will have the same properties as Appellant's materials because they are the same materials." This assertion is like saying that a diamond and a piece of charcoal will inherently have the same properties because they both contain the same material carbon. The rejection does not address how materials that are being put together in Rauschnabel to arrive at the disclosed wear protection layer system will inherently provide Appellant's recited method pertaining to an ultrabARRIER layer system. The rejections do not point to any teaching in Rauschnabel and/or any example therein that would inherently be directed to a method of product an ultrabARRIER layer system as recited n Appellant's claims.

Moreover, in contrast to the assertion in the Examiner's Answer, the materials are not the same. For example, the Examiner notes Appellant's argument that Rauschnabel does not teach producing at least two transparent ceramic layers by sputtering. However, the Examiner's Answer (at page 15, second full paragraph) **completely disregards the word "transparent"** in Appellant's independent claim 1 and merely alleges that "Rauschnabel-US teach producing at least two ceramic layers by sputtering."

**Certainly, rejections that disregard features of Appellant's claims, including the recited ultrabARRIER layer system and the transparent ceramic layers are without appropriate basis.**

As discussed in Appellant's Appeal Brief, differences between Appellant's ultrabARRIER layer system and the protection layer system of Rauschnabel are readily apparent to one having ordinary skill in the art. For example, important requirements for a wear protection layer are high scratch resistance and low abrasion. The problem for a wear resistant layer is to find a useful compromise between high hardness and high flexibility of the layer. In contrast, the most important requirement for a barrier layer is a low permeation of oxygen and water vapor, as see, for example, the above-noted third full paragraph on page 1 of Appellant's specification. Consequently, the requirement for a good barrier is to find a layer or a layer structure with a low defect density. In fact, requirements for an ultrabARRIER layer or ultrabARRIER layer system are high, and are specified within the meaning of Appellant's invention in the fourth full paragraph on page 1 of Appellant's specification.

There does not appear to be any disclosure in Rauschnabel, either explicitly or implicitly, of producing an ultrabARRIER layer system, including any indication that the layers or layer systems of Rauschnabel have a permeation barrier against oxygen and water vapor to constitute the producing of an ultrabARRIER layer system as recited by Appellant. **Thus, Rauschnabel is without any teaching or suggestion to arrive at a method of producing an ultrabARRIER layer system let alone the method recited in Appellant's independent claim 1.**

Still further, the only kinds of layers disclosed in Rauschnabel are UV protective layers and wear protective layers. It does not appear that Rauschnabel discloses that any of these layers is structured and/or arranged to prevent growth of defects in a ceramic layer from continuing

over several layers and therefore **does not teach or suggest Appellant's recited smoothing layer**. Consequently, it does not appear that Rauschnabel teaches or suggests a method of producing an ultrabARRIER layer system comprising smoothing layers. Accordingly, the rejections are appropriate basis for yet this additional reason.

Additionally, Appellant's independent claim 1 further recites that a monomer is admitted into an evacuated coating chamber in which a magnetron plasma is operated during deposition of the at least one smoothing layer. For example, attention is directed to Appellant's specification to the paragraph beginning on page 6 and continuing thereafter. Such a smoothing layer prevents the growth of defects in the ceramic layers from continuing over several layers.

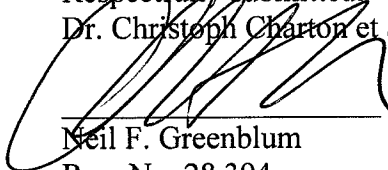
As noted above, Appellant is not repeating each of the arguments set forth in Appellant's Appeal Brief, and the present Reply Brief is being submitted to emphasize arguments based upon statements made in the Examiner's Answer. Accordingly, arguments herein should be considered with together with Appellant's arguments relating to each of finally rejected claims 1-27 as set forth in Appellant's Appeal Brief. The rejections of record should be held to without sufficient basis and should be reversed.

**CONCLUSION**

Accordingly, in view of the above-noted arguments (as well as those already of record), the Board is respectfully requested to reverse the Examiner's decision to finally reject claims 1-27 under 35 U.S.C. § 102 and 103, and remand the application to the Examiner for withdrawal of the rejections and an early allowance of all claims on appeal.

Although no fee is believed to be required for entry of this Reply Brief, authorization is hereby provided to charge any fee that is deemed to be necessary to Deposit Account No. 19-0089.

Respectfully submitted,  
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